DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention]An operating system connects two or more host computers of congener or different species with a network, and this invention relates to the remote place form printing system which performs list printing.

[0002]

[Description of the Prior Art]Conventionally, list information is made to hold on the computer which performs a printing job in the remote place printing system which connected two or more computers with the network, and print data are created, measuring the synchronization of list information on the computer which carries out a printing demand further. In this case, a communication line is used for the computer which performs a printing job from the computer which carries out a printing demand, print data are transmitted and printing is performed with the list information currently held.

[0003]That is, in order to acquire the synchronization of list information between a printing computer and a print request computer, the list information used at the time of print-data creation was specified, and the information on the list information is notified to the printing computer by the communication line. By it, the contents of the list information which is adapted for the notified information are transmitted to a print request computer from a printing computer using a communication line. Based on the received list information, print data were created with the print request computer, and printing which secured the synchronicity of list information is realized by transmitting these print data to a printing computer.

[0004]A printing computer will notify the notice of printing completion to a print request computer, if printing is completed. The print request computer which received the notice of printing completion deletes the list information used at the time of print-data creation.

[0005]

[Problem(s) to be Solved by the Invention]However, in the case of the remote place form printing system from this former, the following problem which should be solved is left behind. In order to acquire the synchronization of list information, the print request computer has deleted the list information which acquired [use] the communication line from the printing computer at the time of printing completion at the time of print-data creation. Therefore, list information will be transmitted each time using a communication line for every print-data creation, and there is fault of increasing the load of a communication line.

[0006]Therefore, the purpose of this invention makes the load of the communication line by the list information transmission and reception between the computers of the near both sides

which perform a printing job the side which requires printing reduce, and there is in providing the remote place form printing system which can secure the synchronicity of the list information at the time of printing.

[0007]

[Means for Solving the Problem]A print request computer which a remote place form printing system of this invention prints by an operating system connecting two or more computers of congener or different species with a network, and requires a printing job, A printing computer which performs a printing job when it judges whether it is no to a printing demand sent from this print request computer and exists [whether identification information and a list information processing method about list information exist, and] in it, It has a receive data analysis means which recognizes data of list information which notified identification information and a list information processing method of said list information to a list information control means, and was sent from said print request computer, and is notified to said list information control means.

[0008]Therefore, by recognizing identification information and a list information processing method of list information which were used, and checking list information by the above composition, when creating print data transmitted from a print request computer at the time of printing, The synchronicity of list information is secured between a print request computer and a printing computer. Exact list printing is attained by it.

[0009]In this invention, since a list information control means sends list information which was in agreement with information which identifies list information by searching by a list information retrieval means to the printing computer side and he is trying to use for printing, a burden of a communication line which transmits the list information can be made light.

[0010]

[Embodiment of the Invention]Hereafter, the remote place form printing system of the embodiment by this invention is explained in detail with reference to drawings.

[0011]Drawing 1 is a block diagram showing the composition of the remote place form printing system by an embodiment. A system has the print request computer 1 which performs a printing demand, and has the printing computer 2 which performs printing according to the printing demand from this print request computer 1. Both the computers 1 and 2 are provided with the transmitting means 10 and 11, the reception means 12 and 13, the receive data analysis means 14 and 15, and the list information control means 16 and 17, respectively. In addition to this, the print request computer 1 side is equipped with the list information master 18.

[0012]In the printing computer 2, the list information retrieval means 19, the list information updating means 20, the list information preparing means 21, the list information deleting means 22, the list information storing region 23, the printing means 24, the printer 25, and the

communication line 26 other than said each means are provided.

[0013]Drawing 2 shows the example of data when performing a printing demand from the print request computer 1 and transmitting in this embodiment. In this case, the example of data consists of the print request information 30, the list information name 31, list information bar JON 32, and the list information processing method 33.

[0014]Next, operation of an embodiment is explained with reference to the flow chart of drawing 3 and drawing 4.

[0015]First, as shown in drawing 3, operation of the print request computer 1 is performed as follows. After creating print data using list information, in Step S1 (it only expresses like S1 hereafter), a printing demand is transmitted to the printing computer 2 via the communication line 26 by the transmitting means 10.

[0016]At this time, as shown by drawing 2, the list information name 31 of the print request information 30 and the used list information, list information bar JON 32, and the list information processing method 33 are stored in a predetermined address, respectively. There are four kinds of "creation", and "creation and deletion" of the list information processing methods 33, and an operator chooses one operation which desires execution about list information with the printing computer 2. ["updating", and] ["updating, deletion", and] By S2, the reception means 12 receives the response from the printing computer 2 after printing demand transmission.

[0017]Next, in S3, it is compared whether the response received by the receive data analysis means 14 is a response of list information requirements. List information is transmitted when responses are list information requirements (Yes) (S4). At this time, it is reported that the receive data analysis means 14 acquired list information to the list information control means 16. List information management **** 16 which received the notice acquires list information applicable from the list information master 18, and notifies transmission to the transmitting means 10. The transmitting means 10 which received the notice transmits list information to the reception means 13 by the side of the printing computer 2.

[0018]By S5, the reception means 12 performs response reception after transmission of list information. After receiving a response, in S6, the transmitting means 10 performs print data.

[0019]On the other hand, in previous Step S3, when the responses to compare are not list information requirements, print data are transmitted by (No) and the transmitting means 10 (S6). The reception means 1-11 receives a response after print-data transmission (S7), and operation of the print request computer 1 is completed.

[0020]Next, operation of the printing computer 2 is explained with reference to drawing 4.

[0021]First, in S10, the printing demand transmitted by the reception means 13 from the print request computer 1 is received. The reception means 13 notifies the printing demand which received to the receive data analysis means 15. This receive data analysis means 15

recognizes that it is a printing demand, and notifies it to the list information control means 17 like drawing 2 with reference to the list information name 31 and list information bar JON 32 which are stored, respectively, and the list information processing method 33.

[0022]Next, list information retrieval is performed by S11. The list information control means 17 notifies the list information name 31 and list information bar JON 32 to the list information retrieval means 19. This list information retrieval means 19 retrieves the list information both the notified list information name 31 and whose list information bar JON 32 correspond with reference to the list information storing region 23, and notifies search results to the list information control means 17. In S12, the list information retrieval means 19 transmits the reply of having affirmed the printing demand by the transmitting means 11 in S19, when applicable list information exists (Yes), as a result of searching whether list information exists.

[0023]When applicable list information does not exist by S12 of the point, in (No) and S13, the transmitting means 11 performs transmission which requires list information. At this time, the list information control means 17 which received the notice of the purport that is caused list information retrieval means 19 and there is no list information in agreement is notified that list information-requirements transmission is transmitted to the transmitting means 11.

[0024]Next, list information is received in S14. The reception means 13 receives the list information transmitted from the transmitting means 10 by the side of the print request computer 1, and the receive data analysis means 15 recognizes that it is list information, and hands over list information to the list information control means 17. Here, if required, operation of code conversion etc. can also be performed to list information.

[0025]In S15, the list information control means 17 compares a list information processing method. When a disposal method is "updating", the list information control means 17 notifies to the list information updating means 20. As opposed to list information bar JON 32 or subsequent ones which the list information name of the list information updating means 20 which received the notice in the list information storing region 23 corresponded, and was notified by the printing demand, and the newest list information, It updates to the list information transmitted from the print request computer 1 (at this time.). When there is no list information in agreement, and when the list information on a version higher than list information bar JON 32 notified by the printing demand exists, "creation" and processing of "creation and deletion" shall be performed, respectively.

[0026]When the list information processing methods 33 are "updating and deletion", the same operation as the time of the above-mentioned "updating" is carried out, and all the list information on an old version is deleted by the list information name with the same list information deleting means 22.

[0027]When the list information processing methods 33 are "creation", and "creation and deletion", the list information preparing means 21 creates list information newly in the list

information storing region 23. If the list information control means 17 receives a notice to that effect when updating or creation of list information is completed, printing demand affirmation reply transmission will be required of the transmitting means 11, and the transmitting means 11 will transmit a printing demand affirmation reply to it in S19. The reception means 1-20 receives print data by S20, and the printing means 24 prints by sending print data to the printer 25 with list information by S21.

[0028]When printing is ended, the list information control means 17 to which that was notified from the printing means 24 compares whether the list information processing methods 33 are "creation and deletion" in S22. In S23, the list information created by S18 of the point is deleted at the time (Yes) of "creation and deletion." At this time, the list information deleting means 22 which received the notice from the list information control means 17 deletes the list information created by S18 from the list information storing region 23. When list information processing methods are not "creation and deletion" and (No) and processing of S23 are completed in S22, in S24, the transmitting means 11 transmits printing completion reply transmission.

[0029]The receive data analysis means 15 and the list information control means 17 presuppose that it also has simultaneously the function of the receive data analysis means 14 and the list information control means 16, respectively, and realization of this invention is possible for them also in communication of a printing computer question. The print request computer 1 and the printing computer 2 can realize this invention also in communication between plurality, respectively.

[0030]

[Effect of the Invention]As explained above, this invention confirms whether the list information used on the ****** computer at the time of print-data creation exists before transmission of list information, If it exists, since applicable list information will be used, and will be restricted to the time when it does not exist and list information will be transmitted using a communication line, the load of a communication line when transmitting printing KOMPYUTAHE list information from a print request computer at the time of printing is mitigable.

[Translation done.]